

# CONCRETE



*At every hour of the day sunlight brings out the three-dimensionality and rhythm of the design of Idaho Falls Temple, Century Modern character of the structure.*

*(Front cover) The Temple of the Church of Jesus Christ of Latter Day Saints, in Idaho Falls, Idaho, was designed by the Board of Temple consisting of Edward O. Anderson, John Felzer, Ramm Hansen, Hyrum C. Pope, and Lorenzo S. Young, all of Salt Lake City, Utah; and Y. Cannon, of Pasadena, Calif.; and Arthur Price, of Salt Lake City, adviser. Bird Finlayson, of Pocatello, Idaho, was the general contractor.*

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# Architectural CONCRETE

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## Idaho Falls Temple — Church of Jesus Christ of Latter Day Saints

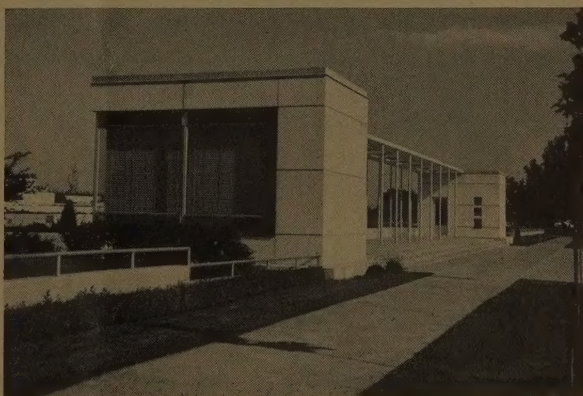
By JOHN FETZER\*, AIA

In the beautiful city of Idaho Falls, Idaho, is located one of the most notable and impressive church edifices in the west. It is the recently completed Temple of the Church of Jesus Christ of Latter Day Saints. There are seven other temples of this church previously constructed and another is contemplated. Four temples similar in purpose but wholly different in design are in Utah and one each in Arizona, Canada and Hawaii. Plans have been prepared for the eighth temple for the church to be constructed in Los Angeles, Calif., as soon as building conditions are propitious.

Surrounded by broad spacious grounds, with the clear, acid waters of the Snake River flowing by it on the west, the Idaho Falls Temple is a monumental structure of shining warm white, which rises with deep setbacks and strikingly impressive bladed pilasters to a final central shaft, capped with stainless steel. The main body of the building is symmetrical in plan and at any hour of the day is characterized by brilliant highlights and strongly contrasting shadows. Its architecture is distinctly 20th Century Modern. Set in its wide, green valley, with distant mountains fringing

the horizon, this temple is visible for many miles and its towering, tapering mass pointing skyward seems to tell of eternal values, to symbolize the aspiration and strength of the human spirit rising above material things.

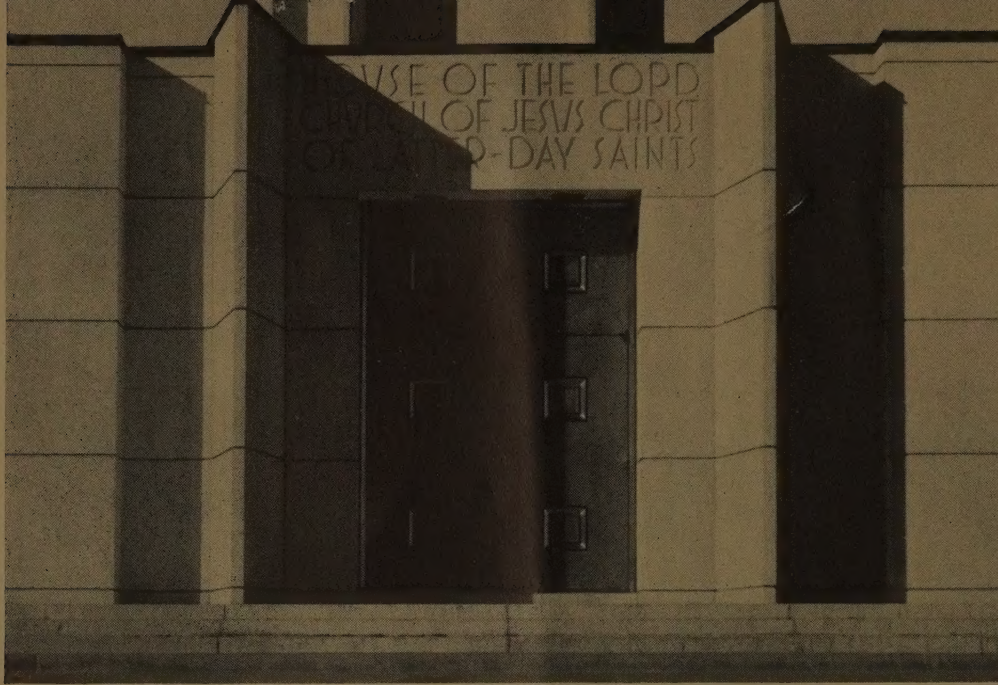
Approach to the temple from the east is through a columned porch, flanked at the ends by a small attendant's office and a bureau of information. Three concrete reflect-



*Approach to the temple is through a columned porch.*

Board of Temple Architects, Salt Lake City, Utah.





*Largest single unit is the inscription stone over the entrance, 12 ft. by 4 ft. 3 in.*

ing pools with planting boxes on either side lead to the main entrance. A similar but simpler approach is to the west of the temple. The outer gardens are surrounded by a low wall and hedge. The inner garden is enclosed by a higher wall conducive to quiet and a feeling of sacredness.

The one-story office annex, which is to the east and in front of the temple proper but entirely integrated in the design, is 173x34 ft. in plan and includes the main entrance. Connecting the annex to the temple are corridors and a 36 x53-ft. assembly hall. The temple proper, which is two-storied, measures 95x131 ft., and the tower at the center is 127 ft. high above the main floor and, with the additional 23 ft. to the subbasement floor, has a total height of 150 ft.

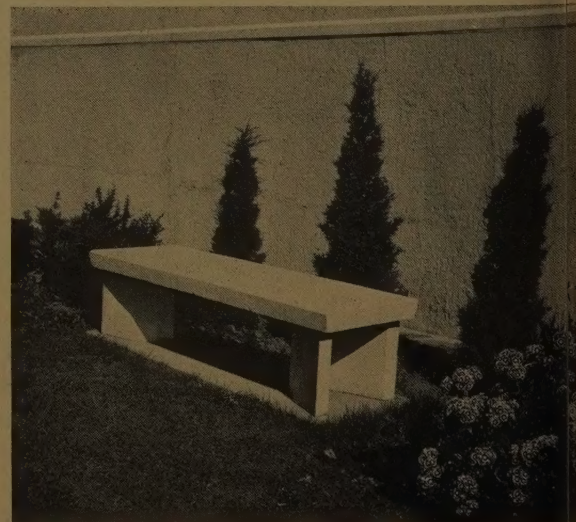
Within the temple are five main rooms or auditoriums, seating 160 to 175 people. These rooms are beautifully furnished and the walls are decorated with great murals depicting various Biblical and church scenes. Rich draperies and heavy deep-pile carpets mute all sounds which might disturb the quietude. An impressive sight is the baptismal font, a great bronze pool, borne upon the backs of 12 silver bronze oxen of life size. The building is completely air conditioned, has a public address system and its heating and ventilating systems are the finest that could be installed.

In the construction of this building it was the desire of the church authorities and the Board of Temple Architects to use only materials of the finest and most enduring quality. We accordingly studied the question of building materials very carefully and visited a number of cities to inspect prominent buildings. Out of many consultations came the decision to use a heavily reinforced concrete frame

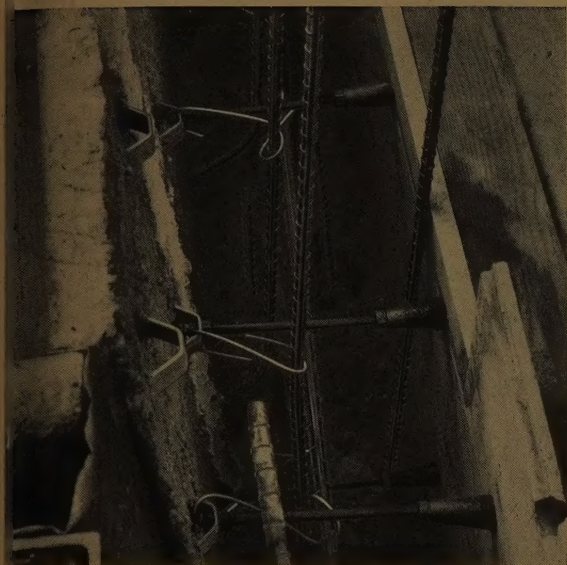
and reinforced concrete walls because of the strength and durability of such construction, which were deemed essential for such a permanent building as the Temple.

The exterior walls are 16 in. in total thickness, the outer 2 in. being architectural concrete slabs made of selected aggregates and having a tooled finish. These facing slabs, with metal ties and anchors projecting from their inside surfaces, were set in position serving the dual purpose of form and finish and the wall concrete was placed against them, thereby creating a practically integral construction. All copings and window sills are flashed with copper, the sh

*The inner garden is surrounded by a high wall.*







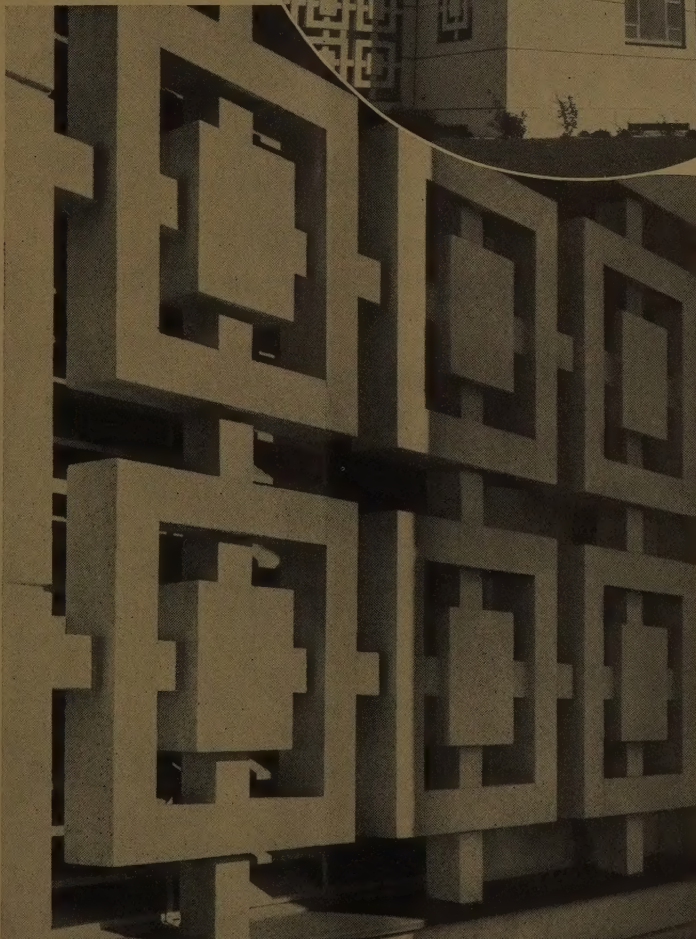
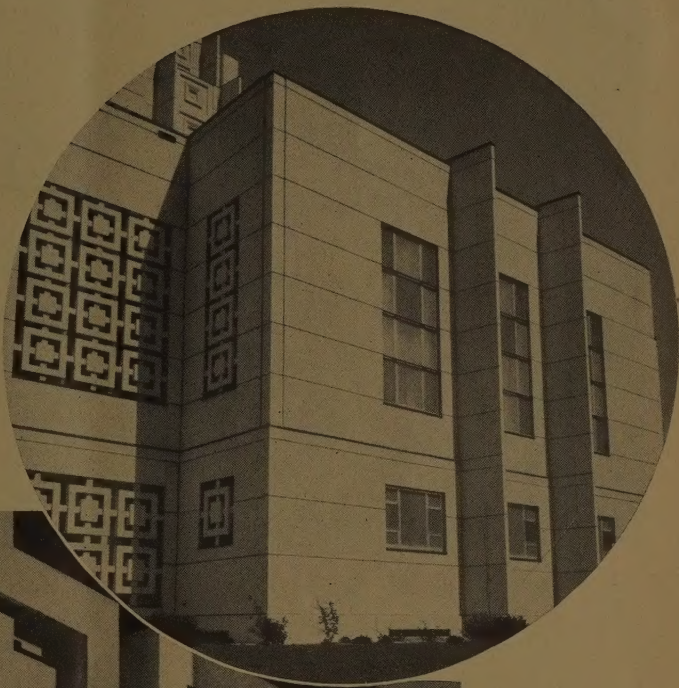
*the precast architectural concrete slabs with which the temple is  
ed, served as the outside form for the cast-in-place concrete walls.  
e bolts engaged heavy strap loops securely attached to the rein-  
cement in the slabs.*

the aluminum, the great entrance doors are bronze. The  
foundations rest upon the valley's volcanic lava bedrock.  
This is truly a building for the centuries.

Before it was decided to use the  
architectural concrete slabs for the  
posed surface of the building, many  
conferences were held and many con-  
siderations were given careful  
thought. The plans and specifica-  
tions at first called for a bush-hammer  
treatment of the concrete as it came  
from the forms, with an alternate for  
special facing such as terra cotta,  
marble or cast stone. Before tak-  
ing bids samples of cast stone were  
furnished by the manufacturer who  
subsequently was awarded the con-  
tract. These samples were made of  
various materials and with different  
finishes. The samples were con-  
sidered by the presiding authorities  
of the church and the architects, who  
decided to take bids on the construc-  
tion consisting of cast-in-place walls  
with the architectural concrete pre-  
cast slab facing. Upon receipt of the  
plans the church was willing to spend  
the additional funds necessary to have

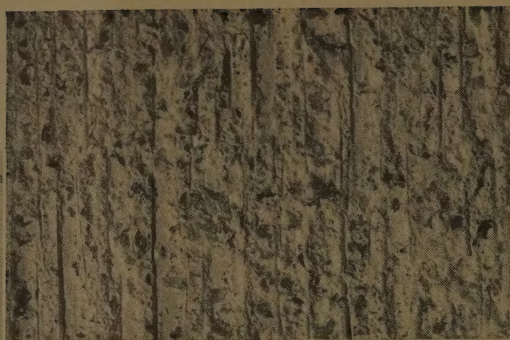
the special facing slabs used instead of bush-hammering  
the cast-in-place walls as originally planned.

The architectural concrete slabs were cast face down on  
a concrete surface. The concrete for the face of the slabs  
was made with Utah onyx (aragonite) aggregate and the  
backup was a good-quality sand and gravel concrete. Plac-  
ing of the backup followed immediately after the facing  
concrete to insure an absolutely integral finish. White port-  
land cement was used in the facing and normal grey port-  
land cement in the backing. All slabs are reinforced with



*This grille motif is  
used in single units  
or in groups of four,  
six and twelve.*





*The slabs were mechanically bush-hammered with six cuts to the inch.*

served to mechanically anchor the facing slabs to the cast-in-place backup. With this construction the architects were able to inspect the surface finish and alignment of the finished wall before the structural backup concrete was placed.

Total cost of building, furnishings and landscaping was \$700,000 and as this great religious edifice was dedicated on September 23-25, 1945 and entered upon its service there was not one penny of indebtedness against it. Certainly this is a notable distinction.

Idaho Falls Temple was designed by the Board of Temple Architects consisting of Edward O. Anderson, John Fetzner, Ramm Hansen, Hyrum C. Pope and Lorenzo S. Young, all of Salt Lake City, and Georgius Y. Cannon, of Pasadena, Calif., and Arthur Price of Salt Lake City, adviser. The general contractor was Bird Finlayson, of Pocatello, Idaho. The architectural concrete slabs were made by Otto Buelner Co., Salt Lake City, and were set by Thomas B. Child, mason contractor, also of Salt Lake City.

4x4-in. electrically welded mesh made of  $\frac{1}{4}$ -in. round galvanized rods. After wet-curing for 2 weeks the slabs were allowed to dry thoroughly and were then pneumatically tooled to produce a bush-hammered finish with six cuts to the inch. In all, 60,000 sq.ft. of slabs was used.

The largest single unit is the inscription stone over the entrance which is 12 ft. long, 4 ft. 3 in. high and has a soffit return of 2 ft. 8 in. Many of the slabs contain 60 sq.ft. or more. The largest grille is 11 ft. 6 in. by 14 ft. 2 in., and is made up of 12 single grilles 3x3 ft. and closure pieces. Some of the smaller grilles were cast in one piece. Especially designed reinforcement was used in the grilles.

The slabs were erected in typical masonry fashion and were held in position by bolting them to the inside wooden forms with  $\frac{3}{8}$ -in. bolts which acted as spreaders. The bolts engage heavy strap loops securely attached to the mesh reinforcement. Straps and bolts were designed to take the full hydrostatic pressure of the freshly placed concrete while the slabs were acting as the outside form, and later they

*Strap anchors on the backs of the large slabs were spaced not over 24-in. centers both ways.*





# Southern Community



*The old city hall in Ft. Payne, Ala., was adequate and up-to-date when built in 1880.*

## Replaces Antique with Modern

THE city of Ft. Payne, Ala. and DeKalb County decided just before the war that they had outgrown the city hall of 1880 vintage and the courthouse which was right up-to-date in 1890. The old facilities may have been all right in their day but that day had long since passed and the citizens and public officials realized that the steady progress of the community was being hampered by these outmoded, wholly inadequate public buildings. Added to the pressing need, it seemed like just good sound business sense to take advantage of federal aid and to borrow such additional funds as were needed to augment money available in the treasury at the attractive low rate of interest prevailing at the time. It was difficult to tell which was the more urgently

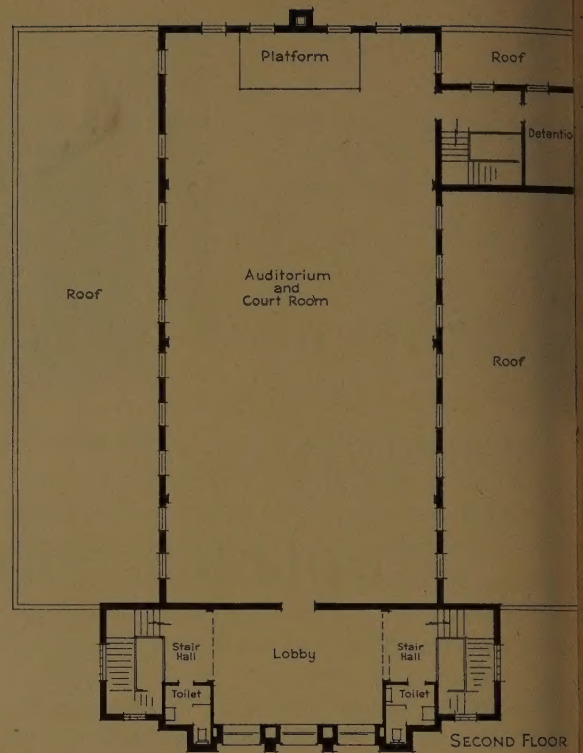
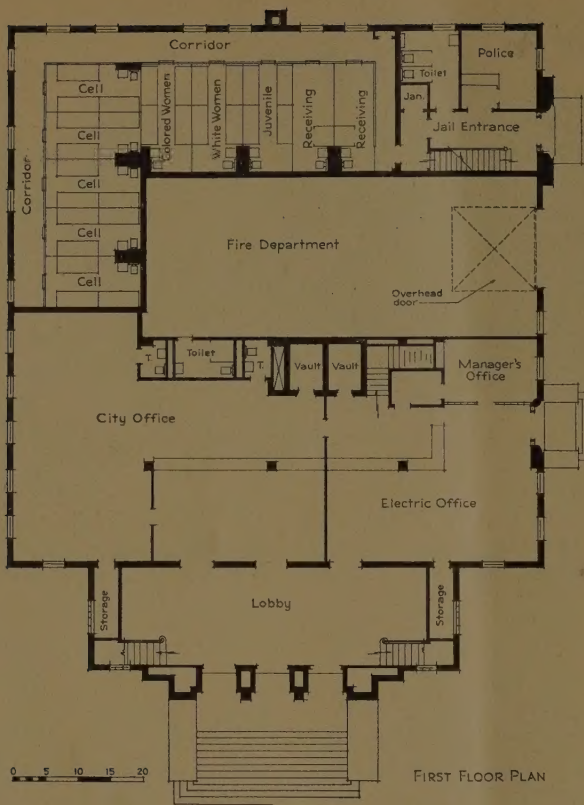
needed, but it was decided that by erecting an annex to the old courthouse they could get along with the old building a little longer. Accordingly, construction of the DeKalb County Activities Building was begun but drawings for a new courthouse were prepared with the idea of starting construction as soon as possible after the Activities Building was completed. The war upset those plans but county officials are looking forward to more abundant building materials to make it possible to complete the job they laid out for themselves in the near future.

The new city hall simply could not be delayed for anything, so construction went on concurrently with the activities building. Mayor W. H. Haralson, J. N. Crowder, city

*The new city hall in Ft. Payne, Ala., was designed to meet the requirements of a steadily growing community. Matthew H. Tardy, formerly of Gadsden, was the architect.*







*Ft. Payne City Hall.*

clerk and treasurer, and the members of the city council, who actively fathered the project, studied carefully with their architect the possible types of construction. The definite trend toward architectural concrete construction, which was becoming more and more apparent, combined with the fact that such construction would employ the maximum amount of available local labor, led to the decision to build the new city hall of concrete inside and out.

The total cost of the city hall was \$115,000. The city's share was \$53,000 of which \$33,000 was borrowed. Since completion, \$8,000 of the indebtedness has been paid and the balance is being retired out of tax revenues.

The simple design of the building was conducive to

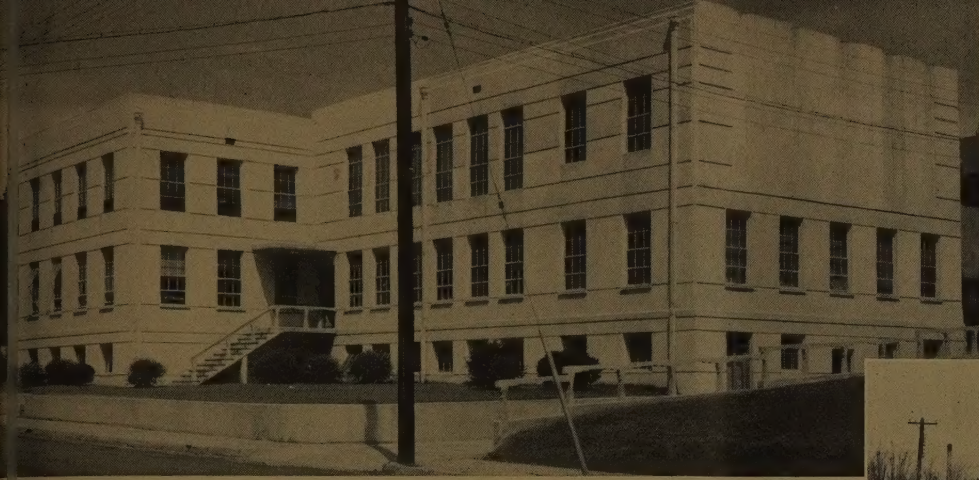
economical form construction, for which plywood was used for the exposed surfaces of all exterior concrete walls. In expensive wood molds were used to form the name on the lintel across the front of the building and the department names on the side street elevation. The small ornaments of the spandrels above the main entrance doors and the jamb of the doorways on the side were likewise formed with wood molds. The interior of the building was made as simple and plain as possible to minimize cost and provide the maximum facilities for the least money. The structural concrete floor in the lobby is finished with terrazzo. Elsewhere the floors are covered with asphalt tile.

The firesafety of concrete construction, combined with



*The DeKalb County Activities Building designed by Paul W. Hofferbert, architect, of Gadsden serves as an annex to the old courthouse and will house certain county offices after the new courthouse is built.*





*With a public auditorium on the second floor, fire-safe construction was a prerequisite for the activities building.*

maintenance, appealed to G. E. Hill, chairman at that time of the DeKalb County Board of Revenue, and other members of the Board. These qualifications seemed to be particularly important for the activities building since many public records would be housed there and the second floor of the building was to be devoted largely to an auditorium to be used for public gatherings.

In the basement are the county library and offices for the R. Cross. On the first floor are the offices of the board of revenue, the board of education and the county agricultural agent, and on the second floor, in addition to the auditorium, is the office of the board of health.

The concrete basement floor is painted and other floors finished with asphalt tile. All ceilings are left exposed

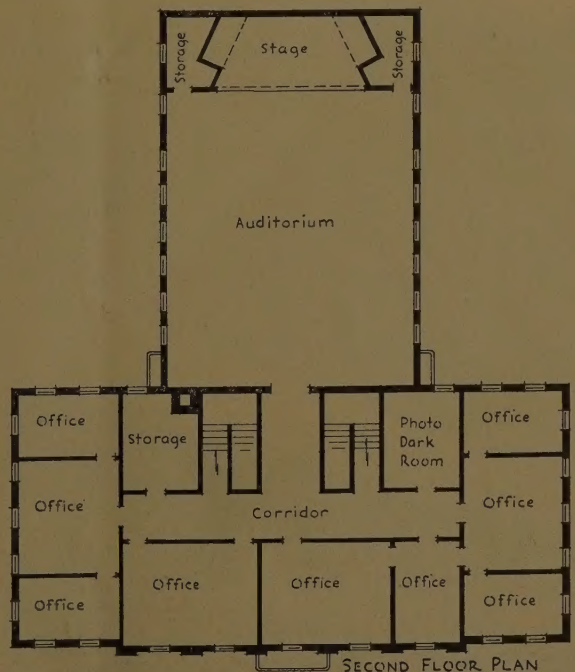
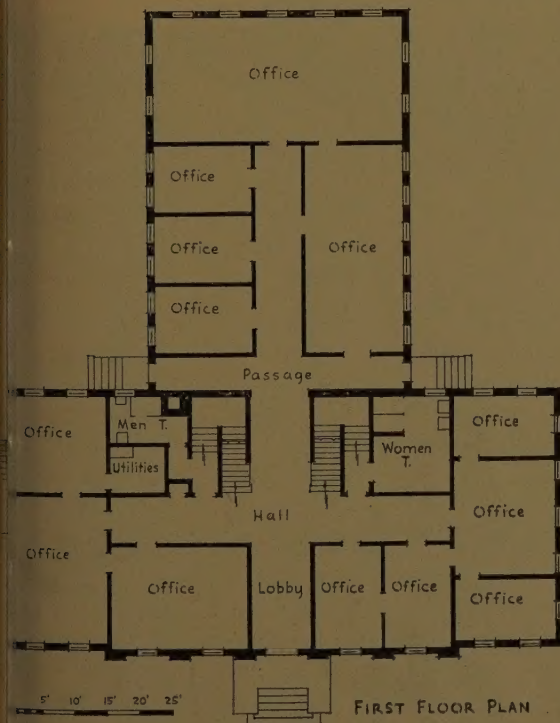
*Old DeKalb Courthouse to be replaced. Plans by Architect Matthew Tardy.*



and painted except the second-floor ceiling which is covered with an acoustical material. Basement partitions are painted concrete masonry. Elsewhere the partitions are metal lath and plaster.

Matthew H. Tardy, architect, formerly of Gadsden, Ala., designed the city hall and the proposed courthouse before entering the army, and Paul W. Hofferbert, architect, of Gadsden, designed the activities building.

*DeKalb County Activities Building.*

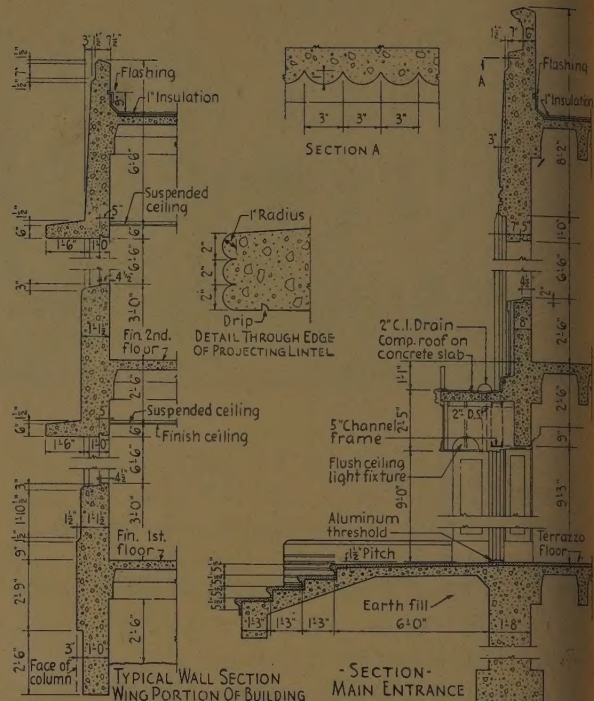




# Vernon Works Aluminum Company of America

THE administration building of the Vernon (Calif.) Works of the Aluminum Co. of America keynotes the architecture and the fine quality of the architectural concrete buildings constructed there in recent years. The general theme of the design is shown in this view. The horizontality of the administration building itself is emphasized by the dark areas of the windows and the deep-brown, portland cement painted piers between the openings, which contrast with the light-rose colored spandrels and the light lines of the aluminum sash and aluminum bands across the piers. The primary function of the projecting canopies over the windows, which are cast as integral parts of the spandrels, is architectural although they serve the utilitarian purpose of shading the windows to some extent. The simple, classic detail of the main entrance, executed in aluminum extrusions, sheets and castings, is carried out in the restrained detail above the second-story window surmounting the entrance and the detail of the parapet, all of which is cast integrally in the concrete.

Gordon B. Kaufmann, was the architect for Alcoa's administration building at Vernon, Calif.; Murray Erick, structural engineer—both of Los Angeles.



Walls are flush on inside. Spandrels project beyond face of piers on outside. Horizontal reeding along edge of projecting canopy over windows and vertical reeding in parapet were formed with wood molds. Frame and floor construction are reinforced concrete.





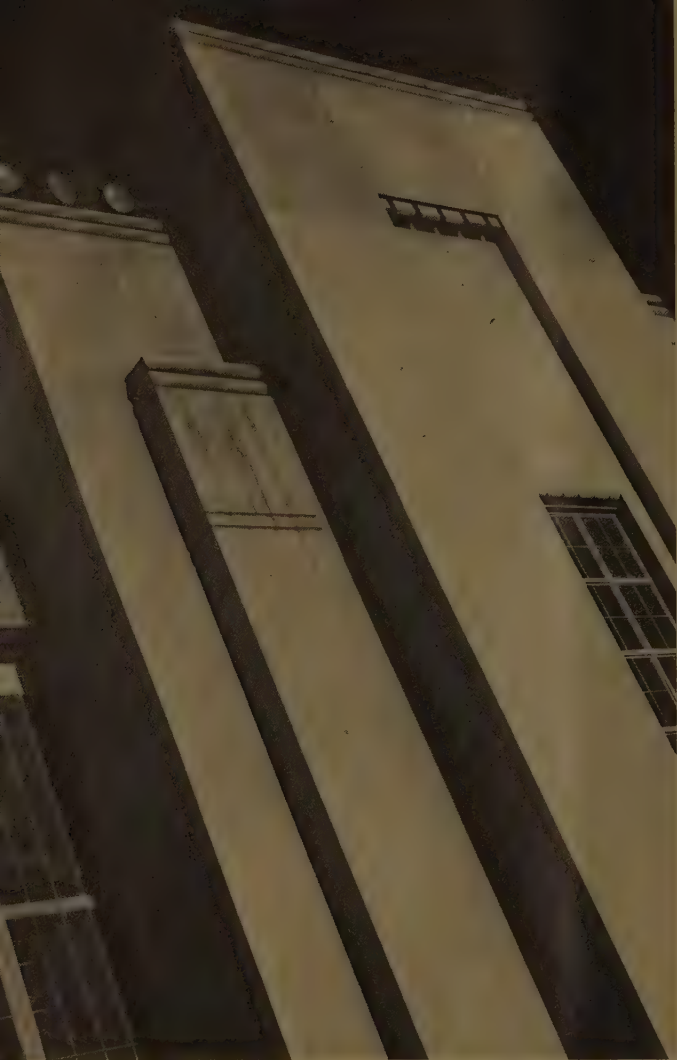


th-textured concrete walls cast in Presdwood-lined forms make an ideal background for the decorative cast aluminum bas-relief spandrels. The story glass block bay in its aluminum frame catches the maximum of north light to illuminate the main stairway. The areaway with the planting towers and shrubbery gives added attractiveness to the building. All too frequently the rear of otherwise well-designed buildings is neglected but at Alcoa's Vernon Works. The design here is well integrated throughout and the same careful attention was given to the details of the elevation facing the parking space as was given to the front.

The architect's design calling for smooth rounded corners was well executed in the construction by carefully lined forms.







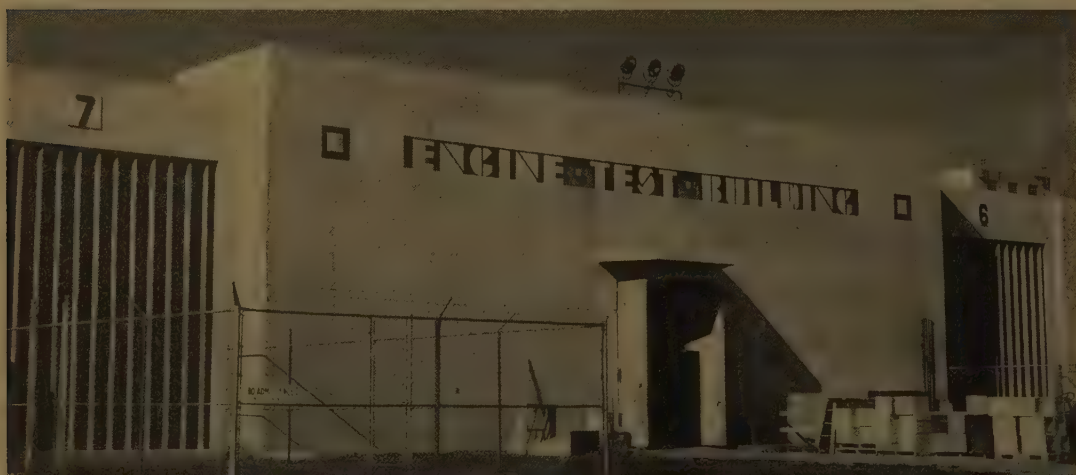
## Architectural Concrete at Spokane Air Technical Service Command

*The quality of the architectural concrete pylons of the airplane repair building reflects careful workmanship in the form construction. Structural plywood was used for the contact surface of the forms and the simple ornamental detail was formed with wood molds.*

MUCH of the wartime construction necessarily was of a temporary nature which, having served its purpose, will be written off as expendable, the buildings will be torn down for salvagable materials or sold for the mundane tasks

of peace. But many of the Army Air Forces buildings were substantially built to serve a long time if necessary or desired. Some of these buildings already illustrated and described in ARCHITECTURAL CONCRETE\*, and others like those at the Spokane Air Technical Service Command, Spokane, Wash., shown here, are worthy of notice as examples of special industrial building types so necessary to maintain our position as the world's greatest air power and likewise

\*See Vol. 9, No. 1; Vol. 10, No. 1, and Vol. 11, No. 1.



*The concrete letters in the name of the engine test building were formed with wood molds. The letters are formed with the wall surface and stand in relief in a depressed panel with a blue-painted background.*



*The airplane repair building is the largest of the group comprising the Spokane Air Technical Service Command. Four hangar units arranged in pairs cover an area of 650x750 ft. The flanking and center pylons house stairways. Offices are located at the side of the hangar in a unit forming an integral part of the whole structure, which was constructed by Clifton Applegate and Henry George, contractors, of Spokane.*

*The architectural concrete walls of the bombsight building are without openings except the entrance and the freight doorway. Horizontal rustications are the only ornamental details. Clyde Ludberg, of Spokane, was the contractor.*



## Service Command

ential to the continued development of civilian air transportation.

ar jobs were rush jobs, which may lead one to the conclusion that the architectural and structural designs as well as the type of construction used were the results of hasty judgment. Jobs are done quickly under the lash of wartime

necessity because the experience, knowledge and skill of many men are concentrated upon a project simultaneously. Representing as they do the combined effort of many minds, they are, in fact, often the result of more deliberate judgment in the aggregate than structures built in peace as the conception of a single mind.

Among the buildings at the Spokane Air Technical Service Command which are of permanent type of construction are the airplane repair, the engine test, the instrument repair and the bombsight buildings. All of them were designed in the Office of the Chief of Engineers, War Department, Washington, D.C. Such additional architectural and



12-cell engine test building is 100x400 ft. in plan. Like the other buildings in the group, forms were constructed of plywood. The sound baffles which extend from floor to roof at each end of each cell are made of lightweight concrete blocks. These baffles extend 20 ft. into the wing. The concrete roof slab is made of expanded micaceous aggregate for its heat and sound insulating properties. Ford J. Twaits, of Los Angeles, was the contractor.





The instrument repair building close by the bomb sight building is another windowless building. Here again the 170-ft. long walls cast in plywood forms are attractive for their simplicity. The contractor was Gaasland Construction Co., Seattle.

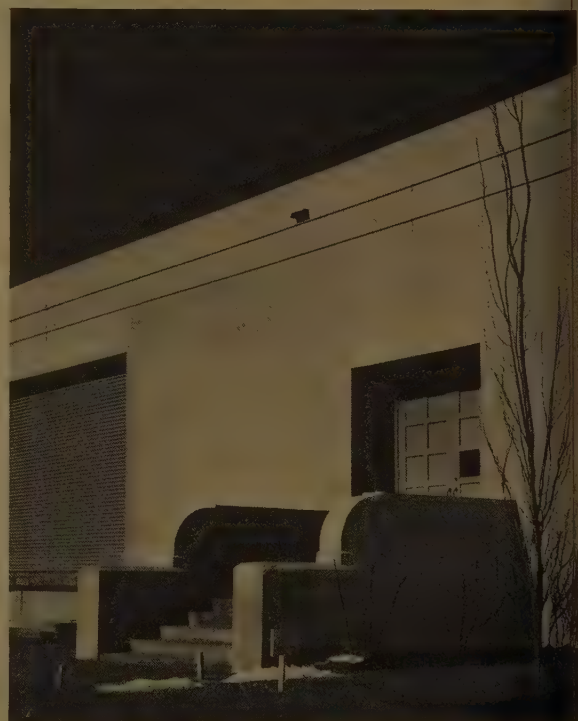
engineering work as was necessary to adapt the design to local conditions was done by Young & Richardson, architects and engineers, of Seattle.

Though these architectural concrete buildings are strictly utilitarian, the designers have achieved good appearance with well-balanced masses, simple lines and details, and an interesting contrast of light and dark areas produced by plain walls with deep reveals and well-placed openings. Nothing unnecessary was added for the mere sake of seeing what could be done simply because the designers were working with a medium which can be adapted to almost any design, no matter how imaginative.

The buildings of the Spokane Air Technical Service

Command had a job to do in war and did it well. They should continue to serve in peace as long as there is need for them.

Control joints were provided in the walls of the instrument repair building as in all the other architectural concrete buildings. Two of these joints can be seen above the doorways in the picture.



Two 250,000-gal. prestressed concrete water towers of the Hewett type look like giant medieval watchtowers. The tanks themselves are 44 ft. inside diameter and 22 ft. deep and the tank floor is about 102 ft. above ground level. Covering the tanks are flat concrete domes which cannot be seen in the picture. The tower and tank walls were constructed with slip forms. M. O. Sylliaasen, engineer, of Seattle, designed the tanks which were built by S. G. Morin, contractor, of Spokane.



# Fox Theatre—Spokane

## *Like New After Fourteen Years*

By E. W. BAKER, MANAGER

is an old saying but a true one, "That proof of the pudding is in the eating." In a building the real test is in the and service it affords—its performance through the

this test is applied to the Fox Theatre, one of Spokane's best architectural concrete buildings, it can be pronounced 100 per cent satisfactory after 14 years of service. Judgment is inescapable because there has been no deterioration of any kind in it and because the new paint recently applied to it was but the equivalent of the painting periodically given to any first-class building. The well-known contractors, Alloway & George, of Spokane, conducted the building whose fine architectural appearance,

the work of the late R. C. Reamer and of his assistant Frank Wynkoop, is as distinctive and pleasing today as it was when first completed. It commands the attention of everyone and its marked departure from the conventionally designed structures which surround it suggests a happy escape from the humdrum monotonies of life—the very thing that theaters aim to provide. It is interesting to note how under the skilful control of trained and imaginative men the elementary masses of auditorium, lobbies and street front stores have been combined and simply ornamented to give a dignity and a beauty to the structure which under other conditions might easily have been lacking.

The large ornamental butterfly panels on the east facade



*Slip-forms with built-in fluting were used in the construction of the auditorium walls.*

ing below zero in winter with a good many cycles of freezing and thawing. In the summer the temperature frequently gets up into the 80's and 90's. As previously stated, there has been no deterioration of any kind in the concrete due to weathering or any other cause. Having originally been made of good, weather-

*Many cycles of freezing and thawing during 14 winters have left arrises as sharp as when the forms were stripped.*







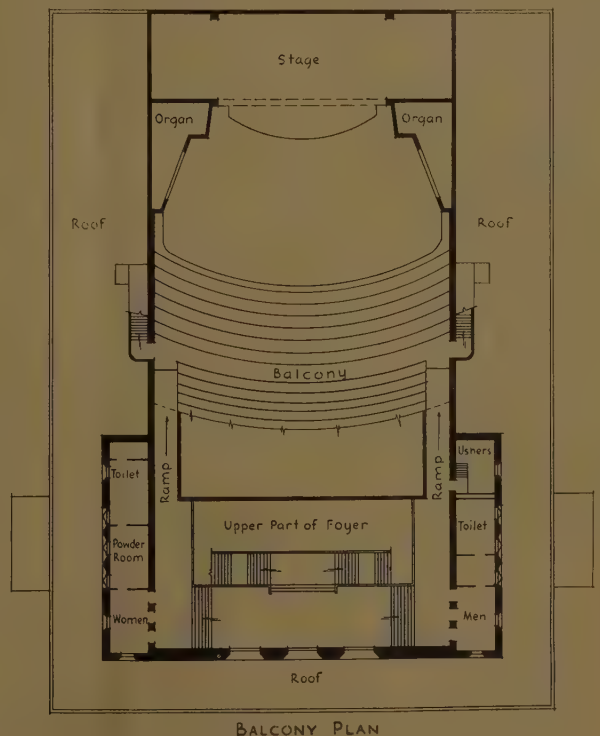
*Interior details and appointments in keeping with the quality of the exterior construction distinguish the Fox Theatre as among the finest in the West.*

istant concrete, there has been no crumbling of sharp edges anywhere and no scaling of any kind, which seems to prove that when architectural concrete buildings are properly constructed they remain in good condition indefinitely.

The accompanying photographs, some of which were taken just after the building was turned over by the con-

tractor and some within the past few months, tell the story more vividly than many words. Seldom can it be said of a man-made structure that every prospect pleases, but this is one of the exceptions. And I may add that the owners and management are today as highly pleased and satisfied with the architectural beauty and perfect condition of the building as when the theater had its gala opening 14 years ago.

*All ornamental detail, such as the large bas-relief butterfly panels in the spandrels above the upper foyer windows, was cast in plaster waste molds.*





# LIVING M



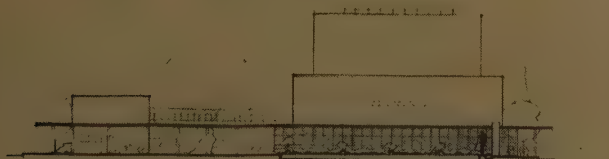
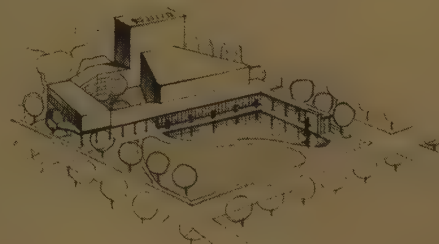
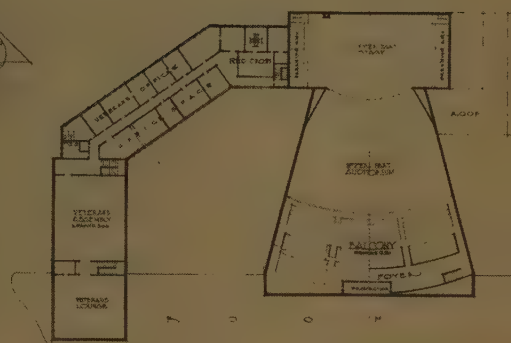
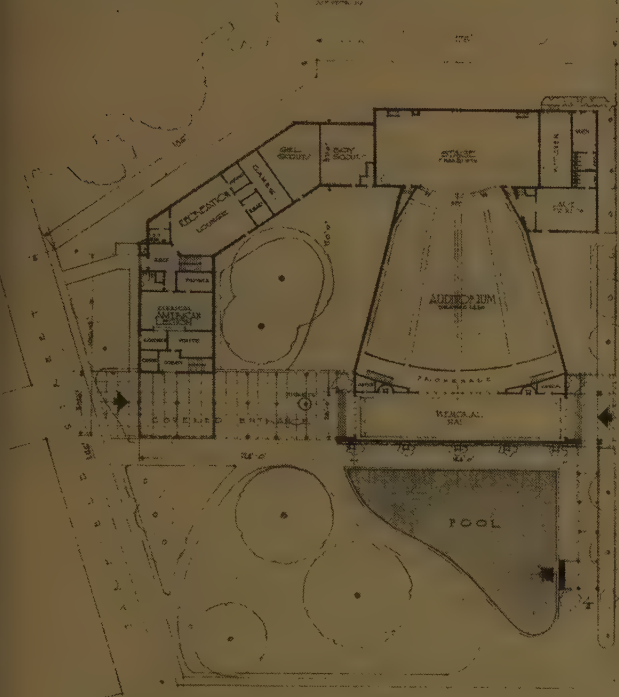
SINCE THE DAWN OF CIVILIZATION NATIONS HAVE COMMEMORATED WAR VICTORIES AND HONORED THEIR WAR DEAD BY CONSTRUCTING MEMORIALS. OFTEN THESE HAVE BEEN INSPIRING GROUPS OF STATUARY, TRIUMPHAL ARCHES OR OTHER STRUCTURES OF PURELY AESTHETIC APPEAL BUT WITHOUT UTILITY.

NOW THE TREND IS TOWARD LIVING MEMORIALS WHICH ARE FITTINGLY CONSECRATED TO THE MEMORY OF OUR FALLEN HEROES BUT ARE ALSO DEDICATED, IN THEIR NAME, TO THE CULTURAL DEVELOPMENT AND PHYSICAL IMPROVEMENT OF THE LIVING AND OF GENERATIONS YET TO COME.

SUCH MEMORIALS ARE TAKING SHAPE IN THE MINDS OF CIVIC LEADERS AND THEIR ARCHITECTS. TYPICAL IS THE LAFAYETTE PARISH WAR MEMORIAL FOR LAFAYETTE, LA., DESIGNED BY A. HAYS TOWN, ARCHITECT, OF BATON ROUGE. IN THIS MODERN COMMUNITY BUILDING FACILITIES WILL BE PROVIDED FOR THE VETERANS' ORGANIZATION, FOR THE RED CROSS, FOR BOY AND GIRL SCOUT GROUPS AND FOR COMMUNITY GATHERINGS OF ALL KINDS.



## M O R I A L S



WAR MEMORIAL

7. 10. 1938





*The new architectural concrete Sylacauga Hospital in central Alabama serves the city and surrounding community, having a total population of over 75,000 people. Charles H. McCauley, of Birmingham, was the architect and Algernon Blair, of Montgomery, Ala., was the general contractor.*

## Hospital at Sylacauga, Ala.

By CHARLES H. McCAULEY\*, AIA

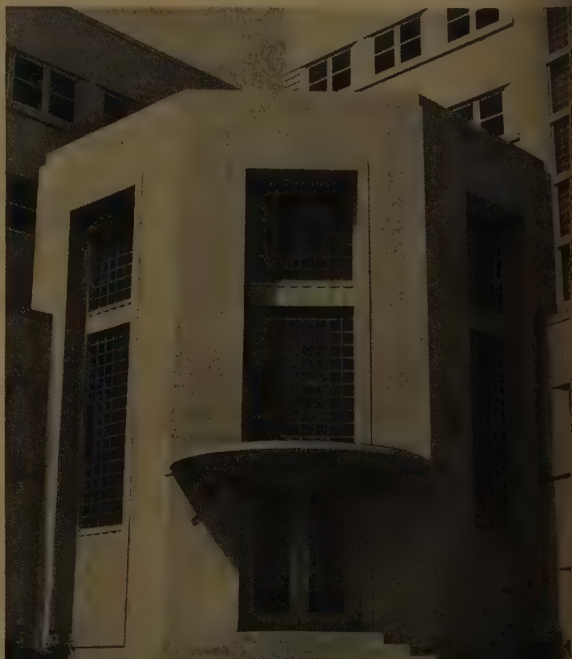
NEVER before have the hospitals of this country been crowded as they have been in recent years. There is nothing to indicate that this is a transient situation due to a sudden and temporary increase in human ailments or anything wholly attributable to the war. The American people enjoy the highest standard of living in the world; they believe in health insurance just as they do in life insurance; people are constantly being educated to have a periodic check-up to detect and halt the inroad of serious disease before it is too late. All these are contributing factors to the overtaxing of hospital facilities everywhere.

Sylacauga, Ala., is no exception to this situation. Located in the center of the state, this city has a population of about 12,000, but there are about 75,000 people in the area who look to Sylacauga whenever hospitalization is necessary. Just the normal needs of the community made the existing hospital facilities totally inadequate and unfit, but the added influx of war workers in a nearby munitions plant made it imperative that something be done and quickly. So it was decided by the health authorities and the city administration to construct a modern hospital embracing the latest in building design and equipment.

\*Birmingham, Ala.

The city through a bond issue and a Federal Works Agency grant secured the sum of \$566,000 for constructing and fully equipping the hospital, and we were commissioned to design the building and supervise construction. Everyone

*The main entrance is located in the angle of the T-shaped building.*



concerned with the project wanted the design to incorporate the very latest ideas in hospital practice. Modern hospitals in the United States and elsewhere were studied and the advice of the United States Public Health Service was sought to be sure that no important modern hospital requirement would be overlooked and that the building assigned would meet future requirements so far as it is humanly possible to anticipate them.

Since it was desired that every feature of the building be advanced as medical science and in accordance with the best practice in hospital construction as well as layout of facilities, architectural concrete construction was chosen. Past experience had proved that architectural concrete would be the most economical of any type of construction available to hospitals.

During construction and since completion the job has



*Solariums on the first, second and third floors have south and east exposures, insuring an abundance of sunshine practically all day.*



*Floor of the lobby is terrazzo and the walls are marble faced.*

been visited by architects and hospital authorities from practically every section of the United States, and there have been many foreign visitors who have studied features of the design. One unusual feature of the layout, which has attracted much attention and favorable comment, is that all patients' rooms have a direct southern exposure. To protect these rooms from the midday sun, a continuous canopy above the windows was cantilevered from the spandrels. This was easily done with concrete construction but would have been considerably more difficult and expensive with any other type. The continuous canopy makes it possible

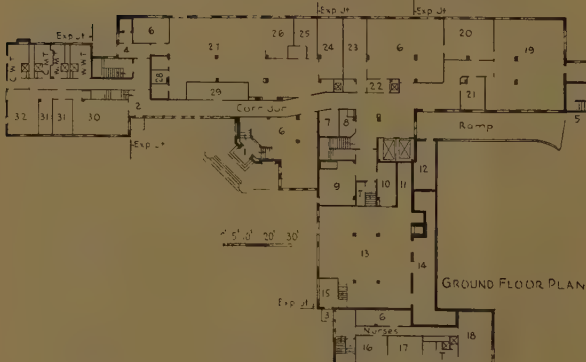
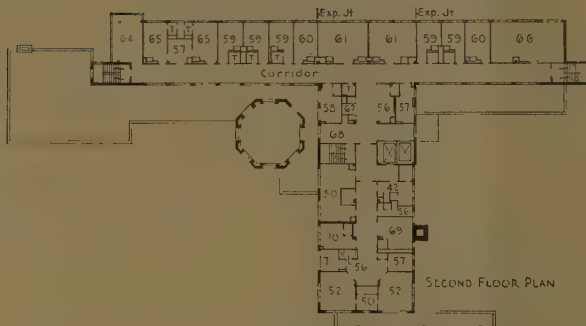
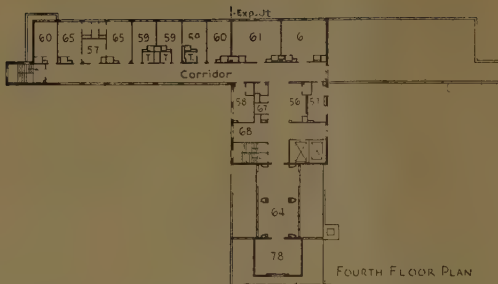
to keep the windows open even during quite severe storms, thereby insuring maximum ventilation of each patient's room.

The T-shaped building is four stories high with approximately 71,000 sq.ft. of floor area and a volume of 700,000 cu.ft. The capacity is 100 beds and there is room for 15 babies on the maternity floor. The building being T-shaped presented a problem in arrangement, particularly as to the location of the main entrance, but by placing the entrance in the angle of the T, a very satisfactory arrangement was worked out. The central location of the lobby, which is



## LEGEND

- |                       |                         |
|-----------------------|-------------------------|
| 1. PUBLIC ENTRANCE.   | 41. STAFF.              |
| 2. DOCTORS' ENTRANCE. | 42. DOCTORS.            |
| 3. NURSES' ENTRANCE.  | 43. DEEP THERAPY.       |
| 4. KITCHEN ENTRANCE.  | 44. X-RAY.              |
| 5. COLORED ENTRANCE.  | 45. DARK ROOM.          |
| 6. STORAGE.           | 46. OFFICE & VIEW.      |
| 7. BATTERY.           | 47. OFFICE.             |
| 8. SOILED LINEN.      | 48. PHYSICAL THERAPY.   |
| 9. AUTOPSY.           | 49. LABORATORY.         |
| 10. MAINTENANCE.      | 50. STERILIZER.         |
| 11. SWITCHBOARD.      | 51. OBSERVATION.        |
| 12. TRANSFORMER.      | 52. OPERATING.          |
| 13. BOILER.           | 53. EMERGENCY SUITE.    |
| 14. COAL.             | 54. EMERGENCY ENTRANCE. |
| 15. ENGINEER.         | 55. AMBULANCE ENTRANCE. |
| 16. LOUNGE.           | 56. NURSES.             |
| 17. LOCKERS.          | 57. UTILITY.            |
| 18. RECREATION.       | 58. PANTRY.             |
| 19. LAUNDRY.          | 59. ONE-BED ROOM.       |
| 20. LINEN.            | 60. TWO-BED ROOM.       |
| 21. HOUSEKEEPER.      | 61. FOUR-BED ROOM.      |
| 22. CLERK.            | 62. EXAMINATION.        |
| 23. PHARMACY.         | 63. COLORED WAITING.    |
| 24. DISHWASHING.      | 64. SOLARIUM.           |
| 25. FORMULA.          | 65. ISOLATION.          |
| 26. DIET KITCHEN.     | 66. PEDIATRICS.         |
| 27. KITCHEN.          | 67. STRETCHER.          |
| 28. REFRIGERATOR.     | 68. VISITORS.           |
| 29. RECORDS.          | 69. FRACTURE.           |
| 30. WHITE DINING.     | 70. GENITO-URINARY.     |
| 31. SERVICE.          | 71. ANESTHESIA.         |
| 32. COLORED DINING.   | 72. SUSPECT.            |
| 33. LOBBY.            | 73. PREMATURE.          |
| 34. WAITING.          | 74. NURSERY.            |
| 35. ADMITTANCE.       | 75. WORK.               |
| 36. BUSINESS.         | 76. SUPPLY.             |
| 37. ADMINISTRATION.   | 77. DELIVERY.           |
| 38. SECRETARY.        | 78. MACHINERY.          |
| 39. SUPERINTENDENT.   |                         |
| 40. CONFERENCE.       |                         |



reached by a double stairway from the main entrance, and the elevators located at the cross of the T, combine to facilitate circulation of traffic in the building, and to minimize the supervision required of personnel.

Due to the scarcity of lumber at the time of construction, steel forms were used for the walls. The forms were re-used many times as the building progressed so that only sufficient forms for a single story were furnished. Exterior walls were finished with two coats of oil paint after forms along the form joints were removed by rubbing with carborundum brick.

Horizontal construction joints were placed at floor lines and at window sills and heads, and in each case coincided with the top edge of the forms. Nothing else was done to conceal the joints.

Control joints were spaced approximately 22 ft. apart and in general are on the centerlines of openings. They were formed in the usual way with a V-shaped groove  $1\frac{1}{4}$  in. deep on the outside and a 1-in. wood strip on the inside which was left in place.

Because of the irregular plan of the building and the considerable difference in mass of adjoining parts, expansion

si joints were provided where indicated on the accompanying plans. These joints divided the building into five separate units through the second floor and into three units above the second floor. To date the jointing of the building has functioned satisfactorily and there is nothing to indicate it will not continue to do so.

Construction of the Sylacauga Hospital was carried on in spite of wartime difficulties by Algernon Blair, general contractor, of Montgomery, Ala.



*Sylacauga Hospital is designed to take care of the entire community.*



*Continuous cantilevered canopies, constructed integrally with the concrete spandrels, effectively shade the south windows of patients' rooms from the midday sun.*

*The fourth-floor solarium is in the stem of the T and has both east and west exposures. Patients have access from the solarium to the roof decks on either side.*





# Movies Under Texas Skies

By JACK CORGAN, ARCHITECT\*

TEXANS like their wide open spaces and do not like to be cooped up even to see Hedy Lamarr on the screen, so they go to the Drive-In theaters in Dallas and Ft. Worth. There they sit comfortably in their cars to view the latest Hollywood productions on a brilliant concrete screen having a picture area 45x35 ft. Latecomers do not obstruct the line of vision of those who came early, just at the crucial moment, and there is no struggling to one's feet while everything in the lap slides to the floor, in order to let someone get that vacant seat in the center of the row.

When we were asked by Underwood & Ezell, operators of the theaters, to prepare designs for them, careful estimates were made of several types of construction including architectural concrete to see which would be the most economical. The architectural concrete structures proved to be the least expensive as to first cost, and maintenance on the concrete was estimated to be less than for the other types considered.

The two theaters in Dallas and the one in Ft. Worth are identical so far as the structures themselves are concerned. This was conducive to economy because the same forms could be used for all three theaters, and they were all built by the same contractor, Morris-Quillen Construction Co., of Dallas. The cost of each screen structure was about \$14,000, and the total cost of each theater, including projection building, sound distribution system, grading of parking lanes, fencing and land, was approximately \$35,000. There is parking space for 450 cars from which 1,300 to 2,000 people can see the screen and hear every sound effect.

As a part of the sound distribution system there is a series of manholes in which the loudspeakers are located. These manholes are covered with gratings and are so located that two cars can be parked between manholes. Thus, there is a loudspeaker at the side of each car. With the car doors or even just the windows open right along side the loudspeaker it is practically like sitting in front of the radio in your own living room.

The parking lanes are circular arcs with driveways in front of and behind each lane so that each car faces directly toward the screen. The lanes are crowned, similar to a narrow high-crowned road, and the cars are parked so the

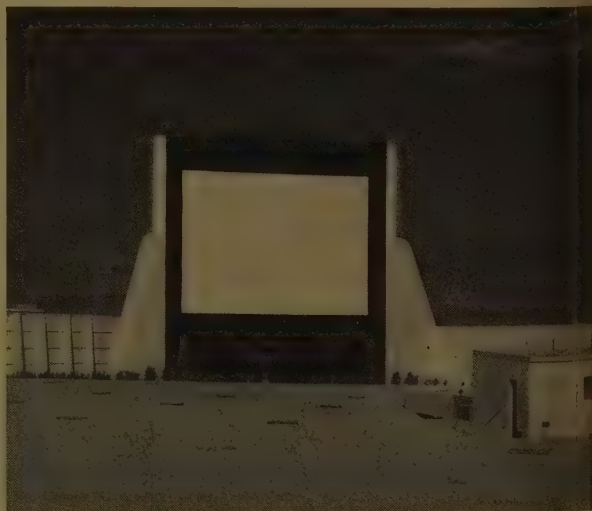
front wheels are just in front of the crown while the back wheels are lower than the front, giving a slight slope to the car. This enables the people in the back seat to look through the windshield at the screen without having their line of vision cut off by the top of the car.

The building, for that is what the screen structure really is, is nearly 64 ft. high above grade and 52 ft. by 16 ft. 6 in. in plan, without the wing walls. It is designed to withstand a wind of 70 m.p.h. velocity and that is another reason for using architectural concrete. The weight of the structure combined with the stiffening effect of the integral cross wall and wing walls, was very useful in the structural design in resisting the overturning action of the wind. R. L. Rolfe, consulting engineer, of Dallas, did the structural design.

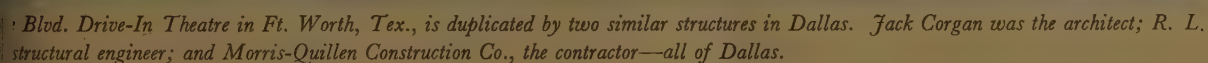
All walls above grade are 6 in. thick, and the typical reinforcement consists of  $\frac{3}{8}$ -in. round bars 8 in. o.c., both horizontally and vertically in the center of the walls. Additional  $\frac{3}{8}$ -in. round bars were provided horizontally, vertically and diagonally around all openings.

Plywood was used for the contact surface of the forms for the screen side of the building and boards were used elsewhere. Other than using the plywood and exercising the

*The concrete screen surface is painted with a flat white paint to insure maximum brilliance and insure perfect reflection of both black and white and Technicolor pictures.*



\*Dallas, Tex.



Both addicts and the occasional attendant at the Fort Worth and Dallas Drive-In theaters have pronounced them wholly satisfactory places in which to view the finest sound movie productions.







*The Clarksville, Tenn., National Guard Armory designed by Speight & Hibbs, architects, is one of several architectural concrete armories in the state.*

## Another Armory for Tennessee at Clarksville

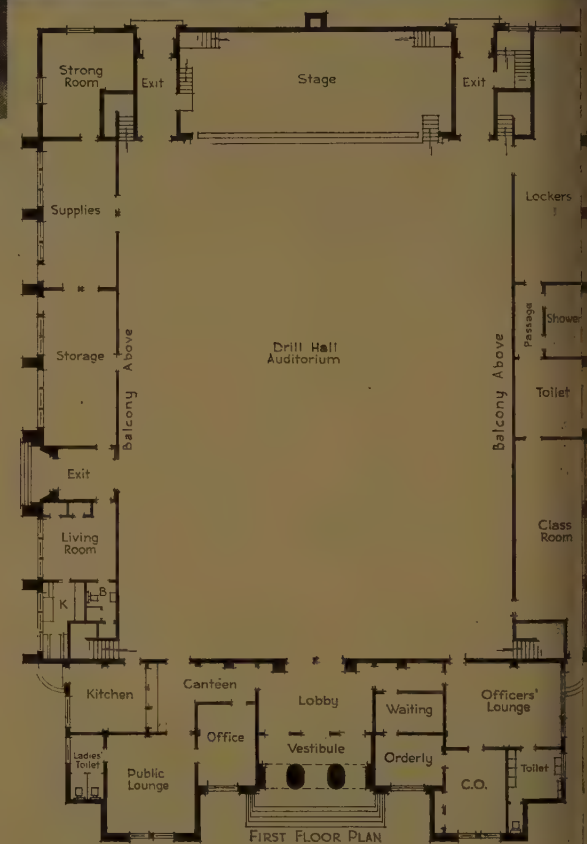
BY CLARENCE W. SPEIGHT\*

THOUSANDS of men trained in the National Guard have served the country with distinction during the war so recently concluded. Since there are indications that the National Guard may play an even more important part in the future than in the past to keep the nation prepared for any emergency, it is reasonable to believe that many armories will be constructed at frequent points for organizing and training the great citizens' army which we have learned is necessary if the nation is to be preserved.

Clarksville, Tenn., is fortunate in having completed a modern armory which will be ready for the local unit of the

\*Speight & Hibbs, architects, Clarksville, Tenn.

\*\*See ARCHITECTURAL CONCRETE, Vol. 9, No. 2, page 8, and Vol. 10, No. 1, page 28.



Tennessee National Guard when it is mustered out of federal service. The Clarksville Armory was one of many built throughout the state under the general plan of the state armories commission headed by Governor Prentiss Cooper and Adj. Gen. Thomas A. Frazier\*\*. Under the state-wide program, construction of the new armory was financed with state funds augmented by federal aid. Ownership and operation of the armories under the plan rest jointly with the state, county and local governments.

The armory at Clarksville cost approximately \$120,000.

city furnished the site, built necessary streets and did grading. The completed job is considered by the architect and the city and state officials to be an excellent buy, especially when compared with similar units of other types of construction over the state. Frankly, as architects for the armory, it was our feeling that the owners would get the most for their money if architectural concrete were used and this proved to be the case. Moreover, this construction is well suited to buildings which are destined to get hard use and probably not as much maintenance as every building deserves. Certainly the Clarksville Armory will see full-time use because in addition to being an armory, it is designed to be used by the public for indoor athletic events, all kinds of public meetings and entertainments. It will also serve the Austin Peay State College. During the war it was used as a USO Center for Camp Campbell, one of the largest in the country.

Attention to preparation of specifications and careful design are essential to the successful construction of architectural concrete buildings just as with all other types of construction, but the satisfaction given to all concerned by the completed building when this is done more than compensates for the little additional time required to insure a good job as compared with one which is only passable. On



*The deeply incised lettering over the main entrance was formed by attaching wood molds to the lintel form.*

the Clarksville job we endeavored not to leave anything to the imagination of the job superintendent, with highly satisfactory results.

Mayor William Kleeman and J. C. Cunningham, Jr., city engineer for Clarksville, contributed much time and effort to the success of the entire armory project.

## Dunbar, W.Va. Gets New Municipal Building

The people of Dunbar, W.Va., are both proud and practical, so when they decided to construct a new municipal building they demanded that it combine good appearance with serviceability.

The result is a \$127,000 city hall and auditorium that will last for generations, require a minimum of maintenance, provide ample space for the conduct of public affairs and leave the pace for future building improvements in the community.

Due to the high standards set, it was only natural that a thorough discussion of possible building materials preceded the drafting of plans and specifications. After many consultations it was agreed that concrete would be the most appropriate medium for achieving the desired results.

The building is 100x61 ft. and contains two stories and

a full basement. Exterior walls are architectural concrete; interior walls are cinder concrete block, plastered and painted; floors are concrete slabs and the roof is composition on wood sheathing, supported by steel trusses.

Plywood forms were used for the exterior concrete walls, and the concrete for ornamental detail was placed integrally with the body of the concrete in wood molds which were fully detailed in the architect's drawings. The exterior was painted after being cleaned down.

Auditorium, stage, dressing rooms and projection room occupy the entire second floor, except for a kitchen and cloak room. The auditorium is available for all types of public gatherings and has fulfilled an urgent need for suitable recreation facilities for young people and adults.

On the first floor are offices for the mayor, city clerk,





*The city building in Dunbar, W. Va., designed by Francis George Davidson, architect, houses the city offices and a large auditorium for public gatherings.*

treasurer, and engineer, the police and fire departments, combined council chamber and municipal court, jail and library.

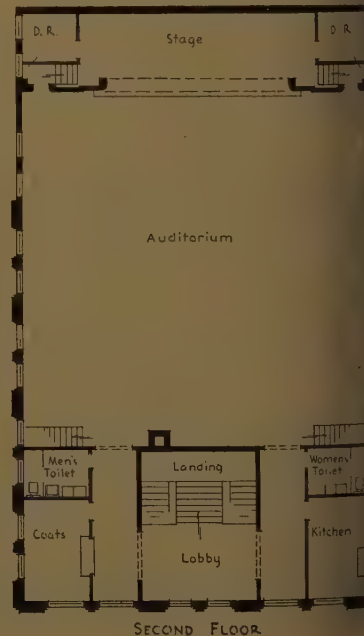
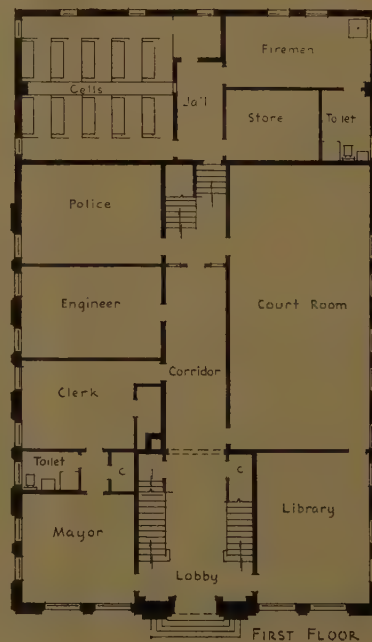
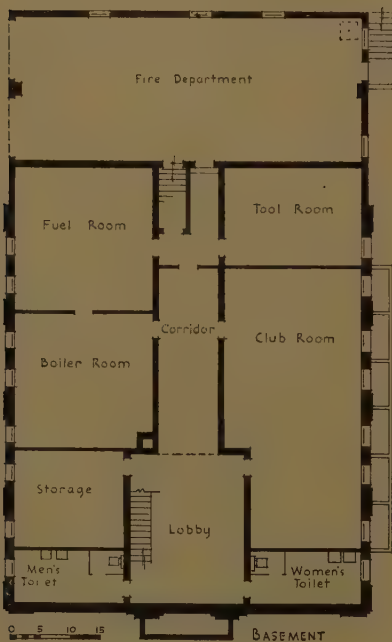
Quarters are provided for the city's two full-time firemen in the rear of the building on the first floor, directly above the basement garage which houses the fire trucks.

In addition to the garage, the basement contains a club-room for volunteer firemen, a room used for Boy Scout meetings, water department work room, furnace room and the usual utility rooms.

Reinforced concrete structural floors in the offices and main corridor are covered with asphalt tile, and terrazzo is used in the main entrance hall. Auditorium, stage and dressing rooms are finished with hardwood flooring.

Construction of the municipal building was started during the administration of Mayor Melton W. Maloney and completed during the administration of the present mayor, D. L. Salisbury.

Francis George Davidson, formerly of Charleston, W. Va. was the architect.



# Municipal Hospital for Grafton, W.Va.

By L. D. SCHMIDT, ARCHITECT\*

THE crowning civic achievement of Grafton, W.Va., is its new municipal hospital located high on a bluff overlooking the picturesque Tygart River Valley. Local pride in the structure is justifiable because it gives this busy little railroad and coal mining community one of the finest modern institutions of its kind in West Virginia.

The hospital has three stories above the basement and a fairmont, W.Va.

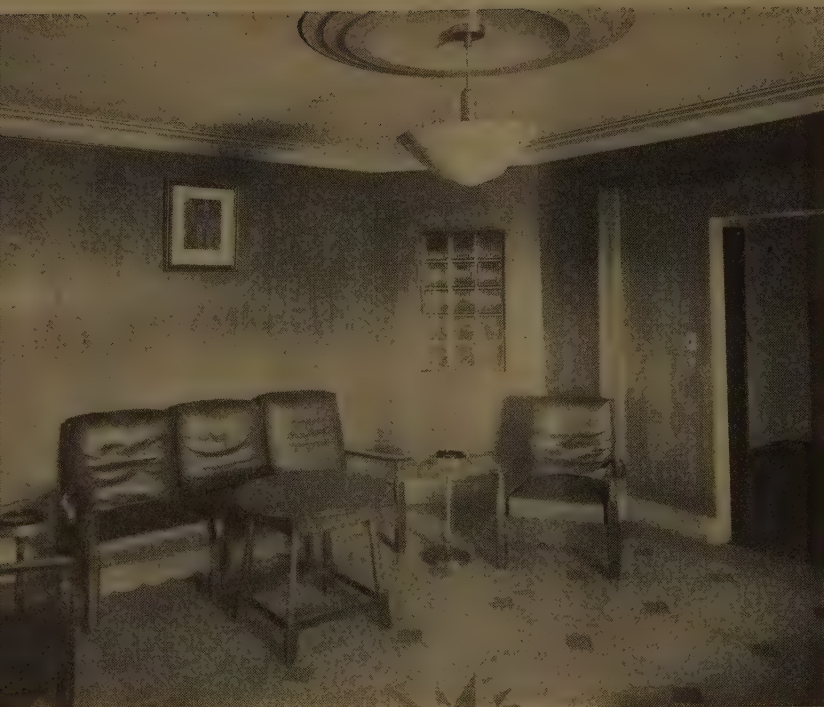
penthouse where two general operating rooms with necessary auxiliary rooms are located. At normal capacity there are beds for 66 patients, in addition to which there are bassinets for 10 babies in the nursery in the maternity ward. Cost of the building completely equipped was \$331,000.

Two entrances are provided in the front of the building, one for bed patients and visitors and the other for outpatients. The main entrance leads into a restful and attrac-

*the Grafton (W.Va.) City Hospital, located as it is on a high bluff overlooking the Tygart River Valley, is literally a crowning civic achievement. L. D. Schmidt, of Fairmont, W.Va., was the architect.*







*The lobby is furnished with West Virginia walnut veneer.*

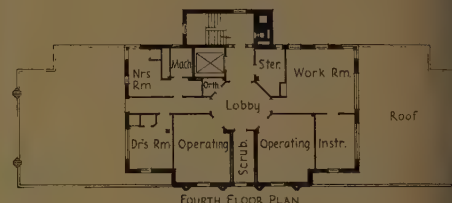
tive lobby finished in West Virginia walnut veneer. A rear entrance is provided for emergency cases and leads into a first-aid and emergency operating room on the first floor.

Exterior walls are architectural concrete 10 in. thick. Insulation is provided by 4-in. cinder concrete masonry units laid with a 2-in. air space between the masonry and the concrete wall. The only connection between the masonry furring and the exterior wall is the floor slab on which the masonry rests. The cinder concrete units also served as an excellent base for the plaster finish.

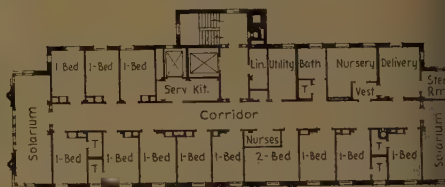
Plywood was used for form sheathing for the outside surface of the walls and the concrete was left as it came from the forms.

Reinforced concrete enameled for easy cleaning was used in some cases for interior partitions and cinder concrete block plastered and painted was used in others. All cinder block used in the building were made on the job and much of the rock removed during excavation was crushed and used in the concrete.

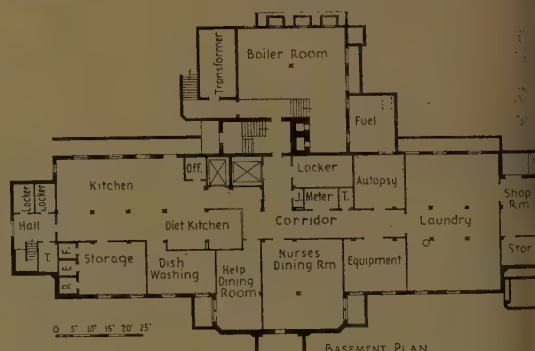
Concrete joists precast on the job are used throughout the building for the floor construction. An interesting feature of the building is the construction used to make the floors as soundproof as possible. The joists support a 2½-in. thick reinforced concrete structural slab on top of which is a 2-in. layer of ¼- to ½-in. gravel. Over the gravel is a 2-in. concrete slab with terrazzo, ceramic or asphalt tile finish, or simply a troweled concrete finish, depending on the room occupancy. The gravel fill not only acts as an



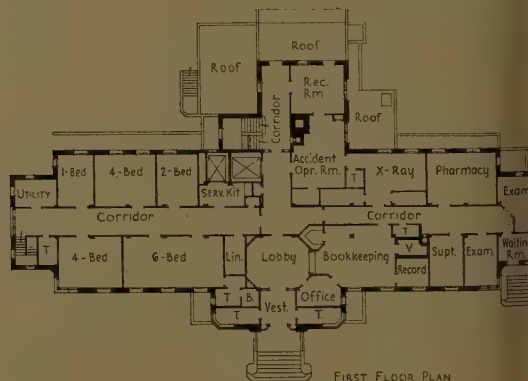
FOURTH FLOOR PLAN



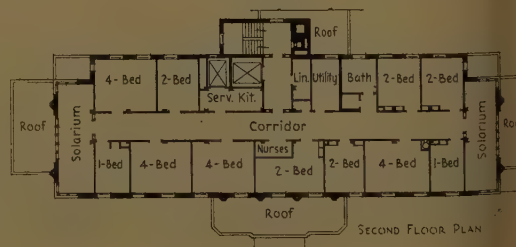
THIRD FLOOR PLAN



BASEMENT PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN

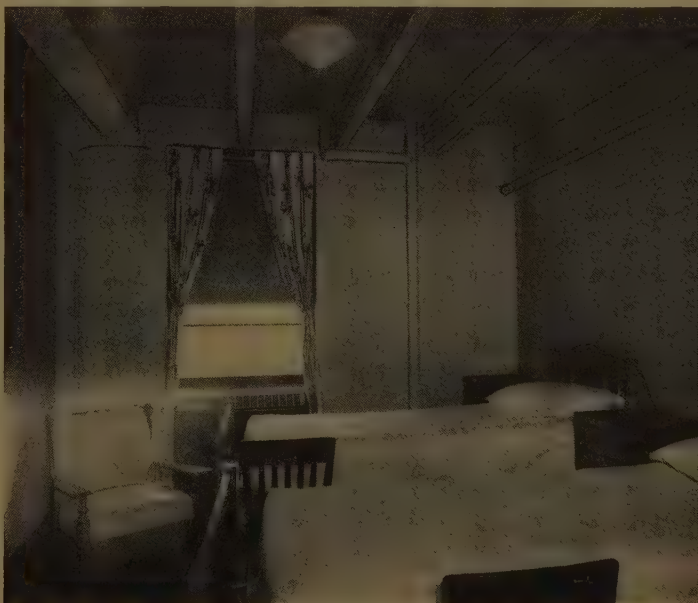


*There are two solariums on the second and third floors.*

acoustical barrier but serves as a fill in which the many pipes and conduits required in hospitals are laid. In the bedrooms, solariums and in general throughout the building except where acoustical ceilings are used, the concrete joists are left exposed and the ceilings are painted. Acoustical treatments were used in corridors and stairways, dining rooms and offices, and in examination and operating rooms. The desired results were obtained with a decorated acoustic tile.

The hospital was started as a WPA project but was completed under private contract with Engstrom & Wynn, of Wheeling, W.Va. as the general contractors.

*Constructed throughout of concrete, including the precast joist shown here in one of the semiprivate rooms, firesafety is assured.*







*The new architectural concrete bathhouse at the Queen City Park Swimming Pool in Tuscaloosa, Ala., was designed to meet rigid requirements of sanitation and economy. Don Buel Schuyler, architect, of Tuscaloosa, was the designer.*

## Modern Bathhouse and Pool, Tuscaloosa, Ala.

By DON BUEL SCHUYLER\*, AIA

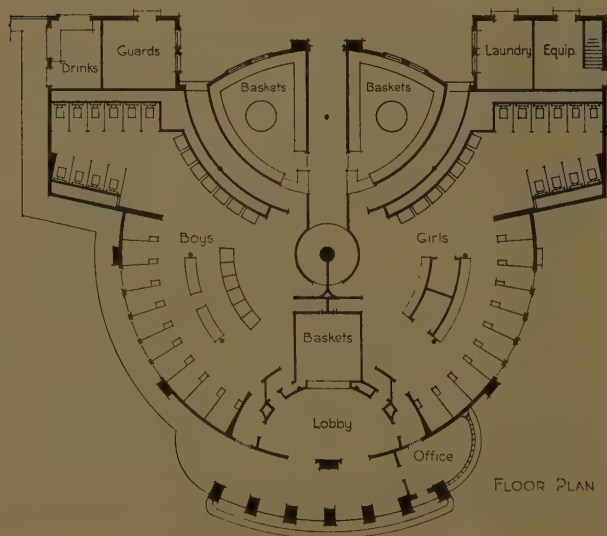
THE "old swimming hole" may still hold some nostalgic charm but it has lost its popularity as a place of healthful recreation. Swimming, however, is more popular than ever and the people of Tuscaloosa, Ala., consider the new pool and bathhouse in Queen City Park one of the best investments in health and happiness they have ever made. More than four times the entire population of the city took advantage of the opportunity to cool off, relax, play and

exercise in the new pool during the first season of operation. In all, 130,000 people used the pool and everyone paid no admission charge.

When the city commissioners decided to build a swimming pool it was also decided that the health and welfare of the public made it essential to provide the most modern pool and bathhouse possible and everything must be done to insure the most sanitary conditions. This meant first of all that the construction of the pools and the bathhouse must be such that they would be conducive to cleanliness and be easily kept clean. There must be no places where rot and decay could take place and where disease bacteria could be harbored. We accordingly constructed the bathhouse throughout of architectural concrete and the pools were built of reinforced concrete. Wide concrete walks were provided around the pools so a minimum of dirt could be carried into the water on the bathers' feet and outside the walks a nonclimbable fence was erected. Only bathers could get near the pool and they must pass through the bathhouse where attendants can supervise them to be sure all sanitary precautions are taken.

All inside surfaces of the bathhouse walls above a 7-ft. high ceramic tile wainscot were rubbed to produce a smooth surface. Floors of the bathhouse and side walls of the pool

\*Tuscaloosa, Ala.







*Wide concrete walks are conducive to safety and pool cleanliness. Only bathers who have passed through the bathhouse can enter the pool enclosure.*

surfaced with ceramic tile and all toilet and shower partitions are also tile faced.

The bathhouse is laid out so incoming and outgoing patrons are separated, so even on peak days there is no congestion and the crowds are handled easily. The circular design provided the best circulation for noninterference of incoming and outgoing bathers. Showers with hot and cold water are provided in each dressing booth. The interior is well-lighted by a circular monitor projecting above the general roof level. A filter room 85x50 ft. is located beneath the bathhouse. There are three large filters, pumps and other water purification equipment capable of treating all the water in the pool three times every day. This insures pure water at all times.

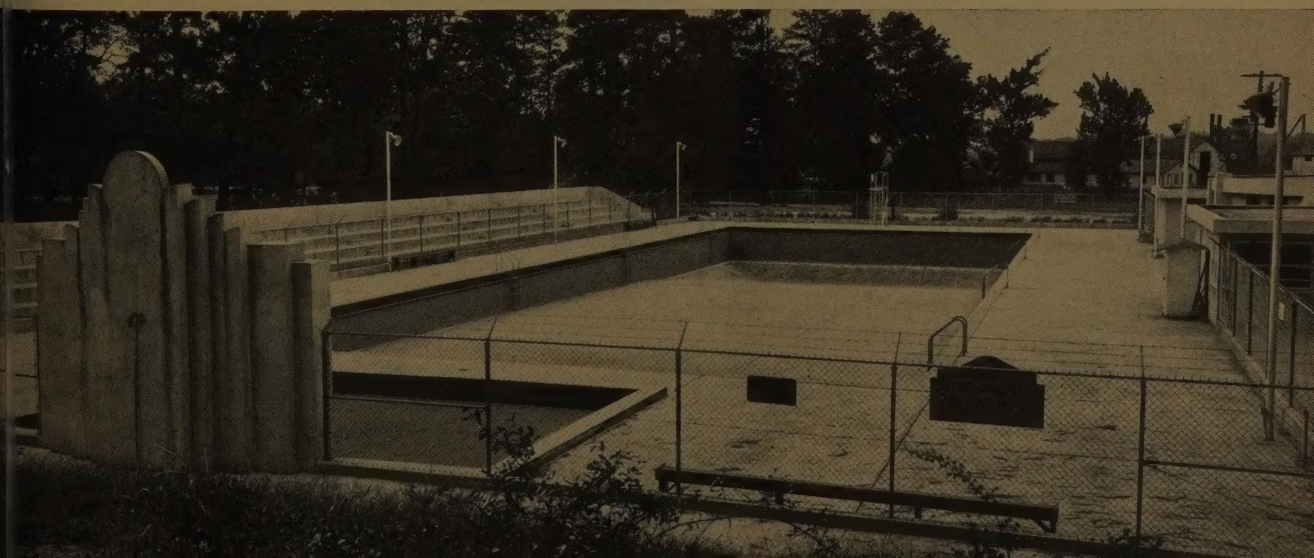
The main pool is 60x165 ft. in plan of which 80 per cent shallow swimming area having a maximum depth of 5 ft. The balance is deep water for diving. Here the maximum depth of water is 12 ft.

The children's pool which measures 20x30 ft. has been a great attraction. It keeps tiny youngsters out of the way of the older boys and girls and reduces the possibility of any mishap. A fountain plays over one end of the children's pool to their great delight.

An adjunct of the project is the spectators' stand which parallels the long side of the main pool. The stand is used at all times by people who just like to watch the swimmers and by parents who want to keep an eye on some of the younger children. The principal use, however, is by spectators witnessing swimming meets and other aquatic sports events.

The Queen City Park Swimming Pool project complete with all water purification equipment, grading and landscaping cost \$100,000. One-quarter of the funds for construction was contributed by the David Warner Foundation and the balance was raised by the city of Tuscaloosa and through a federal grant.

*The children's pool and fountain afford much pleasure for small children, and the grandstand, outside the pool enclosure but with an excellent view of all that goes on within, is popular with old and young for viewing aquatic sports events.*





# Community Center Building, Centralia, Ill.

By HOWARD COOKSEY\*

THIS will not be in any way a technical description of the design and construction of the architectural concrete structure which is the community center building in Centralia, Ill. The picture and floor plans of the building must suffice to tell that story for I am neither an architect nor a contractor and would be presumptuous to write for an architectural magazine on something I know nothing about. What I do know, however, is that the vibrant community spirit of Centralia rotates around its architectural concrete community center which has proved to be one of the best investments the people of Centralia ever made. Not only does it pay its own way financially but it pays regular dividends in friendships, in the development of better boys and girls, in the enrichment of life among all the people of the city.

The citizens of Centralia are proud of their fine community center building and feel very fortunate that on March 29, 1939 they voted to raise \$40,000 to augment a federal grant making possible its construction. The building was planned to provide space for study and recreation in the field of arts and crafts, for the enjoyment of music and drama, for individual and team sports, for club activities and dances, for small luncheons or big banquets and public forums. In fact, it was desired to provide facilities in the community center for every type of indoor activity which

the people of Centralia might want to sponsor and in the five years since its completion it has not been found wanting.

It will not be overstepping the bounds of propriety for me as a layman to say that modernism is the most striking characteristic of the building's exterior. While upon entering one is impressed by the beautifully decorated lounge with its maple furniture and fireplace, which seems to keynote the charm of the interior, it is only with use that one comes to fully appreciate the thought given by the architect to the arrangement of the various facilities that make the building so convenient.

The auditorium-gymnasium, with approximately 4,000 sq. ft. of playing area and a seating capacity of 1,000 persons, is the center of most activity. All types of sports are played there for the recreation and health building of all ages. King of sports in Centralia is basketball. There is a 12-team grade school league which plays every afternoon of the week after school. For early evening play there is a league of high school boys and later in the evening the more experienced men teams take over the floor. In all, there are 10 organized basketball teams which play at the center at least once a week.

There is volleyball for adult men and six teams are organized in a league which plays one night each week. During the supper hour, 5:00 to 6:30 p.m., professional men use the gym for handball and professional women use it for badminton.

\*Superintendent of recreation, community building, Centralia, Ill.



*The community life of Centralia, Ill., rotates around its architectural concrete community center building, which was designed by Barnett & Rixmann, architects, of St. Louis, predecessors of Rixmann, Paolinelli & Schmidt, architects, also located in St. Louis.*



On Wednesday night, every week, a social dance is held. We call it the Family Light Dance and it is just what the name implies. Entire families come and there is music for grandfather and grandmother to do old-time square dances and there is a live band for the jitterbugs. The average weekly attendance for these dances is 250 persons.

The auditorium-gymnasium has an excellent stage complete with dressing rooms and scenery. The schools, churches and dramatic clubs of the community use the stage. Schedules of the athletic leagues are arranged to make the stage available on week ends. Connected with the auditorium is a modern, fully equipped kitchen and there is ample table service for banquets of 350 people. All the large community banquets are served at the center and they have come to be outstanding features.

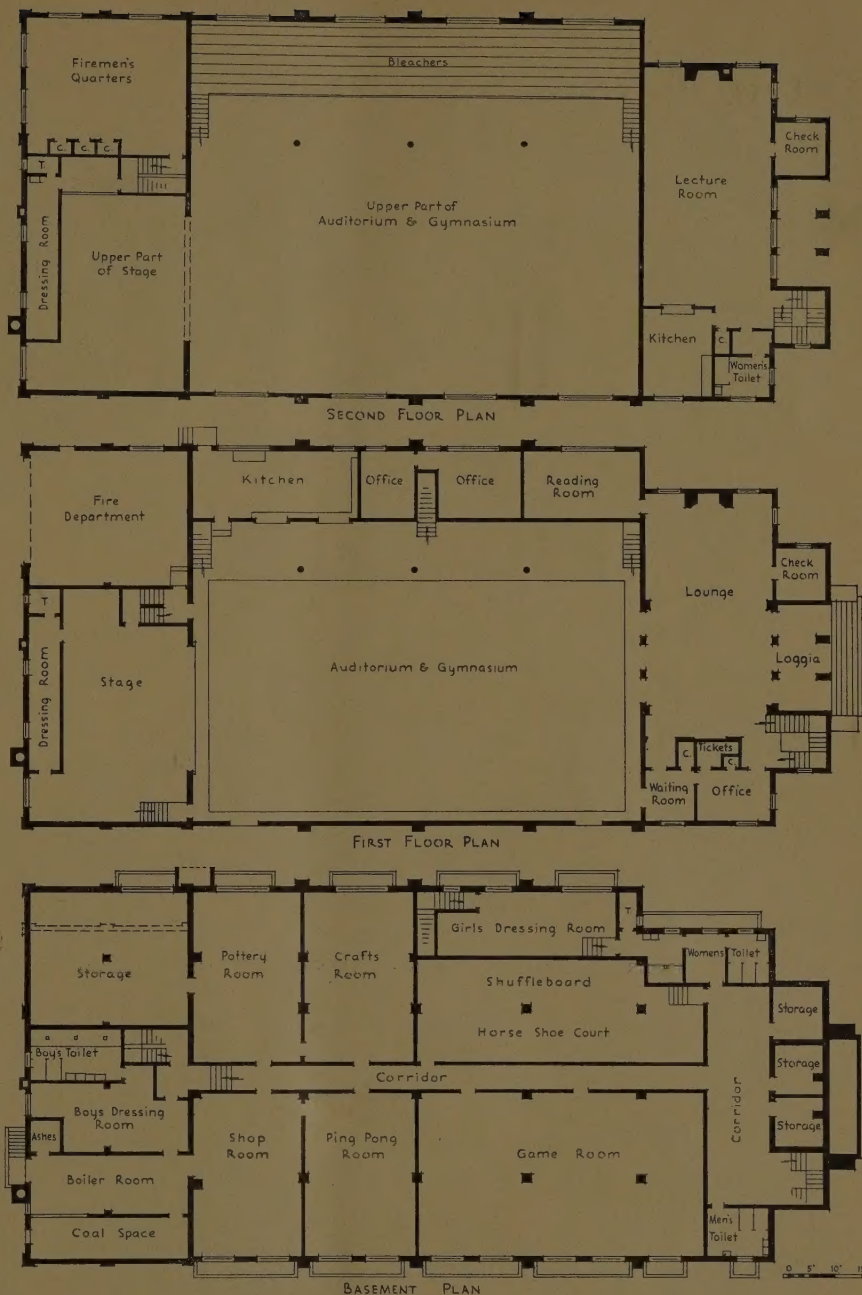
A beautiful clubroom with a capacity of 200 persons is located on the second floor. It is in constant demand by several different ladies' organizations and civic clubs. This room is also served by an ample kitchen from which smaller banquets, potluck suppers and club luncheons are served.

The Sea Scout Troop has its headquarters on the third floor. The same room is also used as a rifle range and gymnasium. It is frequently gayly decorated by the teenagers who put on their dance parties there, which in no way interfere with other activities going on in the building, no matter how exuberant the youngsters become.

In the basement, space is provided for horseshoe pitching, shuffleboard, hop-scotch, miniature bowling, ping-pong, box hockey, punching bags, pocket billiards and other games too numerous to mention. There are also shops for arts and crafts and during the war a soldiers' canteen was set up.

One of Centralia's most progressive organizations is the Camera Club. It has its own fully equipped darkroom in the center and the club keeps a display of fine photography in the lobby of the building that is changed every other week.

Though the building seems large and perhaps a little



lonely as one goes about his work in the morning hours, he is impressed by the way it comes to life each day. Around noontime a group or two comes in for a luncheon meeting. In the afternoon the place really begins to waken with the gathering of this or that club. It warms more as the gleeful shouts of children and their playful spirits fill the building after school. And when evening comes and a different activity is going on in every room the place fairly throbs with life. The people seem to get the real community spirit here in the community center just as a family group does in the home. We are proud of our building and everyone is cordially invited to come and enjoy it with us.



A black and white photograph of the NBC Building in San Francisco. The building is a tall, modern structure with a prominent vertical concrete column. A large, colorful mural is mounted on the wall, depicting a scene with figures and a central vertical element. The building's facade is composed of large, rectangular panels. To the left, there is a section with a grid-like pattern. The sky is dark and cloudy. In the foreground, a person is standing near the entrance, and several cars are parked.

## Architectural Concrete

**NBC BUILDING  
SAN FRANCISCO  
CALIFORNIA**

Albert Roller,  
Architect, San  
Francisco; Barrett  
& Hilp, Contrac-  
tors, San Francisco